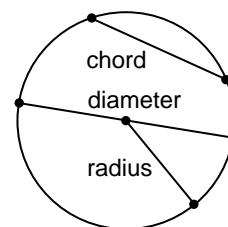


Study Guide

Student Edition
Pages 446–451**Exploring Circles**

A **circle** is the set of all points in a plane that are a given distance from a given point in the plane called the **center**. Various parts of a circle are labeled in the figure at the right.



The distance around a circle is called the **circumference**.

Circumference of a Circle

If a circle has a circumference of C units and a radius of r units, then $C = 2\pi r$.

Example: Find the circumference of the circle shown at the right.

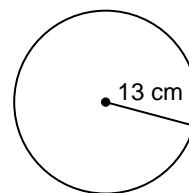
$$C = 2\pi r$$

$$C = 2\pi(13)$$

$$C = 26\pi$$

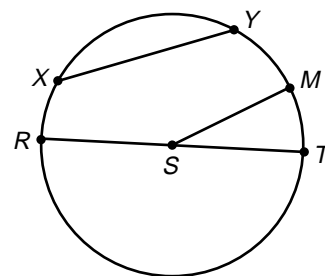
$$C \approx 81.7$$

The circumference is about 81.7 cm.



Refer to $\odot S$ for Exercises 1–6.

1. Name the center of $\odot S$.
2. Name three radii of $\odot S$.
3. Name a diameter.
4. Name a chord.
5. If $RT = 8.2$, find SM .
6. Is $\overline{SR} \cong \overline{SM}$? Explain.



In Exercises 7–10, the radius, diameter, or circumference of a circle is given. Find the other measures to the nearest tenth.

7. $r = 7$, $d = ?$, $C = ?$

8. $d = 32.4$, $r = ?$, $C = ?$

9. $C = 116.5$, $d = ?$, $r = ?$

10. $r = 12$, $d = ?$, $C = ?$